

Applied Environmental Services (UD#2 II-3)
Glenwood Landing, New York
30 June 1985

Location and Nature of Site

Applied Environmental Services (AES) is located in a suburban residential community on the North Shore of Long Island.

The three-acre site is situated on a small hill, approximately 7.5

meters above sea level, overlooking Total

Hempstead Harbor. Motts Cove is to the south and a fuel oil distributor is to the north. The property east of the site is owned by a country club.

Shore Realty Company acquired title to the site in 1983 and later took possession of the land, forcing AES to vacate the premises. Shore Realty maintains that waste material has been leaking from storage containers on the property since the company took possession on January 5, 1984.

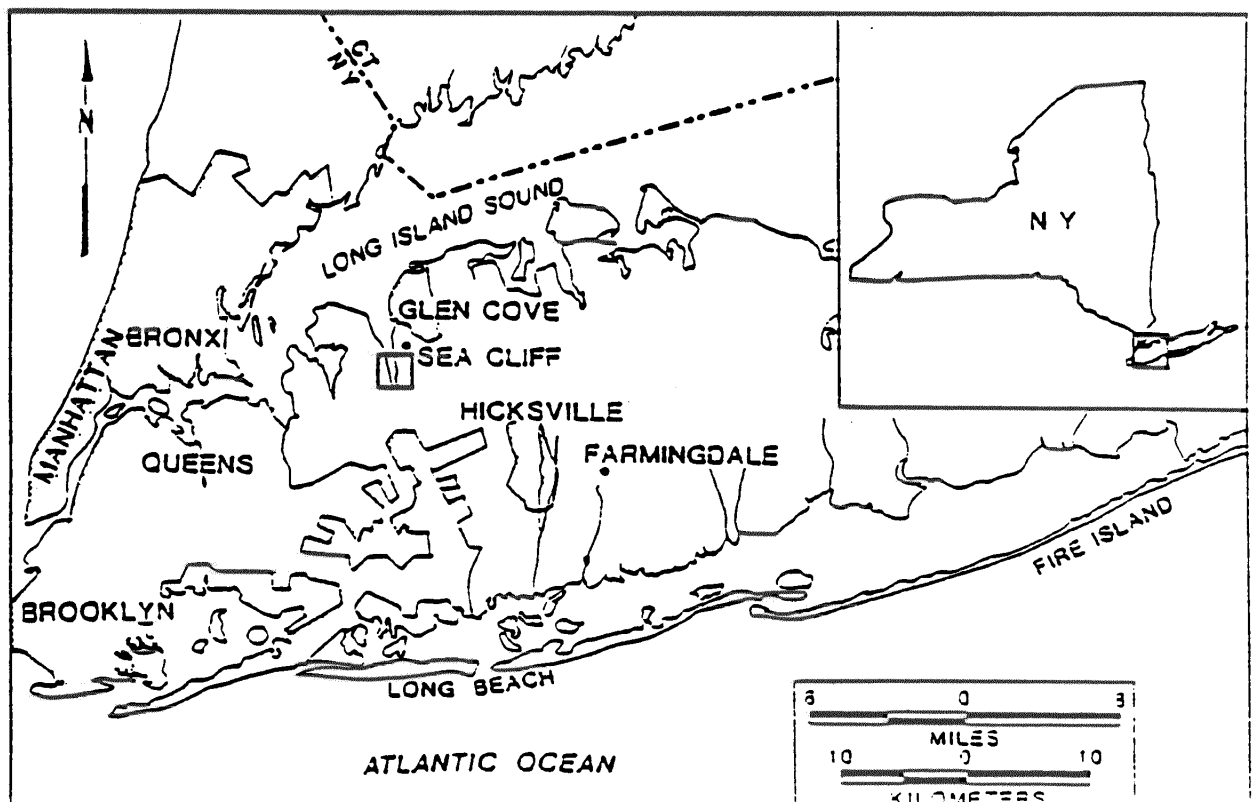
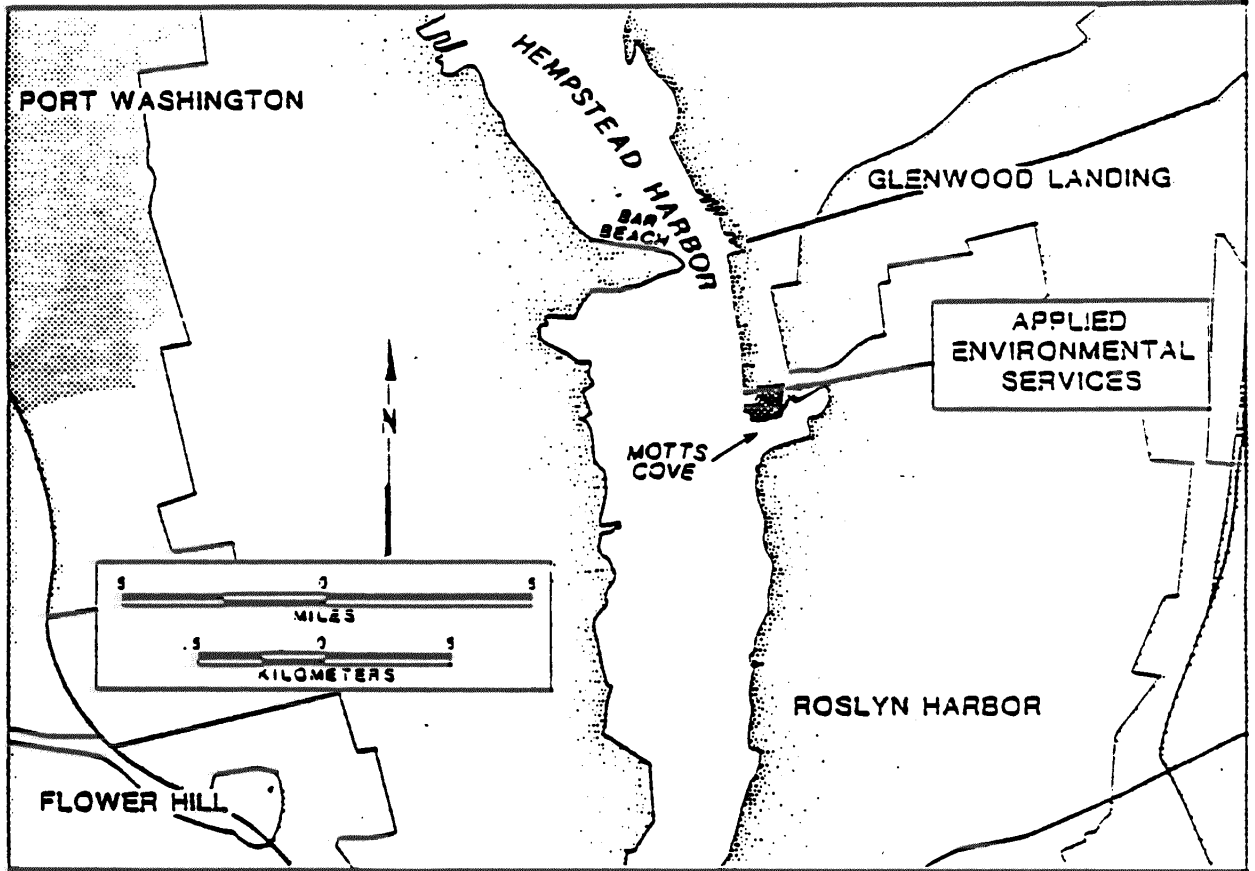
The site had been used by numerous petrochemical operators since 1939; AES operated a hazardous waste facility on the site between 1980 and 1983. Two one-story buildings, seven underground tanks, and 11 above-ground tanks remain on the site. One of the prior owners, Mattiase Petrochemicals, was responsible for several spills of petrochemicals and organic chemicals into Motts Cove, including 3,000 gallons of toluene in 1978.

Chemical Hazards

Proximity to Marine Waters

The AES site is adjacent to wetlands in Motts Cove and Hempstead Harbor. In addition to spills, surface water runoff and groundwater flow may be causing contamination of Motts Cove.

Motts Cove is a narrow, partially bulkheaded cove approximately 600 meters in length with a mouth 200 meters wide. The cove is connected to Hempstead Harbor near the inland half of the harbor, which is nearly separated by a point of land, Bar Beach, jutting out from the west, constricting the channel to a width of about 300 meters. This constriction



reduces the rate and volume of tidal flushing in the inland half of Hempstead Harbor and Motts Cove. An electric power plant is known to discharge waste-heat waters on the Sound side of Hempstead Harbor directly opposite of Bar Beach.

The geomorphological and hydrologic features of the inland half of Hempstead Harbor are conducive to entrainment of dissolved materials. Restricted tidal flushing and the absence of any freshwater tributaries to the harbor area indicate the probability of long residence times of polluted waters entering the inland half of the harbor.

Contaminants and Concentrations

A preliminary EPA assessment revealed contamination by toluene (300,000 ppm), xylene (300,000 ppm), and trichloroethylene (100,000 ppm), as well as the presence of other liquid chemical wastes on the site. The New York Attorney General's Office reports that groundwater near the site has been found to contain toluene (300,000 ppb), xylene (50,000 ppb), and benzene (650,000 ppb).

Physical Extent of Contamination

AES accepted many types of hazardous waste, including waste oil, finished fuel product, chlorinated organic solvents, acids, paints, chloroform, sludges, ethylbenzene, methylene chloride, benzene, toluene, freon, heavy metals, and a variety of other organic chemical compounds. It is estimated that 700,000 gallons of hazardous wastes remain in bulk tanks on the site.

One warehouse on the facility contains between 400 and 500 drums, many of which are rusted. Approximately 100 of these drums were labelled "waste flammable solid". The contents of these drums were reported to be waste solvents mixed with soil.

The extent of contamination in Motts Cove and Hempstead Harbor is not known. No studies have evaluated the impact of contamination from AES in Motts Cove, Hempstead Harbor, nor are such studies scheduled.

Duration of Contaminant Release

The bulk tanks on site are suspected of leaking, as evidenced by soil and groundwater contamination. Due to the volatile characteristics of the materials in the tanks, spills tend to vaporize rapidly. However, the leaking tanks and a continuous release of chemicals into the harbor may cause contamination of Motts Cove until cleanup is completed.

In March 1984, the State of New York sampled surface water approximately one-half meter from shore and detected heavy metals, solvents, and other contaminants. An absorbent boom was placed at the bulkhead which remained in place as of March 1985 to restrict contaminant migration. A contractor for the owner of the site has since sampled the

surface water approximately 30 meters from shore and found no contaminants in those samples.

Marine Resources

Resources at Risk

The anadromous fish present in Long Island Sound vulnerable to impact from the site include the Atlantic sturgeon, American shad, alewife, blueback herring, and striped bass. Flounder, tautog, bluefish, black seabass, weakfish, scup, and cunner are also found in the Sound.

Raptors, including osprey, are present in the vicinity of Hempstead Harbor. Geese, dabbling ducks, and diving ducks overwinter specifically in the inland half of Hempstead Harbor. A total bird count by the New York Department of Environmental Conservation (DEC) noted 500 birds of various species overwintering in this area of the harbor. Spartina sp. vegetates the shoreline at the mouth of the harbor.

The diamond back terrapin turtle is present in the dune area of Hempstead Harbor at Prospect Point, fronting the Sound. Prickly pear cactus, a state-protected plant, is also found in this dune area.

Potential Reduction in Resource Use

Hempstead Harbor has an actively reproducing clam and oyster population. Currently, human utilization of these beds is restricted by the State of New York. Clams and oysters from the Hempstead Harbor area are harvested and then transplanted to clean water areas for depuration, required because of the harbor water's high coliform count. However, the restrictions on shellfish harvesting are not a result of chemical contamination of harbor waters. The possibility that chemical contamination of shellfish resources in the harbor area has occurred has not been evaluated.

The proximity of surface water discharge and the presence of halogenated solvents pose a threat to wildlife, fish, and shellfish. Since shellfish are consumed directly by humans, there is a potential hazard to human health. This threat could extend past the state-required depuration process for clams and oysters harvested in the Hempstead Harbor area.

Ability to Document Injury or Loss

The results of state analyses and consultant reports clearly indicate that contamination of Motts Cove, and therefore contamination of Hempstead Harbor waters, is directly attributable to toxic chemicals present at the AES site. The physical and biological extent of contamination within the harbor area has not been determined.

The specific chemical toxicity of benzene, toluene, and xylene to crustacean larvae is well established. Adult clams and oysters have an established bioaccumulation factor of 10-15 times the water concentration for most volatile organic chemicals. Depuration of volatiles will occur if animals are transferred to clean waters. However, depuration occurs slowly and may require months to reach safe levels.

The possibility exists of contaminants emanating from the site reducing the spawning activity and larval recruitment success of shellfish in the harbor area. This effect will also extend to the other invertebrate populations within the harbor damaging the food chain.

Feasibility of Habitat or Resource Restoration

The majority of the contaminants at the site are volatile organic compounds. The threat to the ecosystem will persist until cleanup is completed. Once the leaking tanks are eliminated and the groundwater is purged of contaminants the aquatic community should return to pre-spill quality levels within two years.

Site-Related Actions

Summary of EPA/State Response Actions

The Nassau County Department of Health (NCDH) conducted a soil and groundwater analysis in September 1980. The results indicated the presence of xylene, toluene, benzene, and aliphatic hydrocarbons, in addition to other organic compounds. In June 1981, NCDH performed analyses on water collected from the creek outfall in which minimal concentrations of volatiles were detected. In February 1982, NCDH sampled and analyzed groundwater from several wells in which the principal contaminants identified included xylene, ethylbenzene, toluene, and 1,1 dichloroethane.

Several recent site inspections have been made by New York DEC and EPA, during which leaking barrels, tanks of solvents, and a hydrocarbon sheen in the cove were observed. A fire marshal also inspected the site on February 15, 1984, and said it presented a significant threat. New York DEC plans a Phase II study and has recently completed additional site sampling.

Present Stage of EPA Action at the Site

The New York Attorney General's Office has the lead on this site. On October 30, 1984, the State of New York issued an order to Shore Realty and Donald Leogrande, owners, to clean up the site. The defendants had hired a contractor who removed 275 drums. However, 150 drums and 700,000 gallons of hazardous waste still remain at the site.

New York DEC and EPA have not scheduled initiation of a Remedial Action Master Plan (RAMP) or Remedial Investigation/Feasibility Study (RI/FS).

In March 1985, a New York Attorney General's Office representative said that the defendants reported that they had contracted with another contractor to clean up the site beginning April 15, 1985. (No action was reported as of May 1985). In spite of this promise, the Federal District Court has moved to hold the defendants in contempt of the original Order to clean up the site.

Responsible Parties with Adequate Means Identified

EPA and the State of New York have identified potentially responsible parties and are negotiating with the owners to clean up the site. Details regarding enforcement investigation or litigation regarding the responsible parties, other than noted above, are not available.

Interest of co-Trustees in Damage Assessment Investigations:

DOI has not reviewed the possibility of natural resource damages resulting from the AES site. The Site Manager for EPA knows of no efforts by the State of New York to seek compensation for natural resources damages resulting from chemical contamination from this site.

Site Chronology

1939	Use of the site by a series of petrochemical operators.
1970's	Facility operated by Mattice Petrochemical.
Oct. 1978	Trailer containing 3,000 gallons of toluene overturns.
1979	Installation of slit trench to collect toluene.
1980	Installation of a recovery pump system.
Sept. 1980	Nassau County DOH sample and analysis indicates soil contamination.
Oct. 1980	Purchase of property by Joseph Saleh and A. Bartur.
Nov. 1980	Operation of facility by AES.
Sept. 1981	New York DEC analysis of soil and groundwater indicates volatile organic contamination.
Feb. 1982	New York DEC analysis of groundwater indicates contamination with halogenated hydrocarbons and volatile, nonhalogenated hydrocarbons.
May 1983	EPA Preliminary Report indicates trench recovery system still in operation. Cleanup of leaching pools not completed.
Jan. 1984	Shore Realty, current owner, evicts AES.
Oct. 1984	State of New York orders owners to proceed with cleanup.

<u>NOAA Reviewer:</u>	Gary Ott, NOAA Hazardous Materials Response Branch
<u>State Contact:</u>	Gordon Johnson, Assistant Attorney General
<u>EPA Contact:</u>	Mel Hauptman, Project Officer

References

Hazard Ranking Score Report (HRS), 1983. U.S. Environmental Protection Agency.

Johnson, Gordon, 1985. Personal Communication. New York Attorney General's Office.

Phase I - Preliminary Report, 1983. Woodward-Clyde Consultants, Inc.

Poole, Mr., 1985. Personal Communication. New York Department of Environmental Conservation Finfish Division.

Swift, Bryan, 1985. Personal Communication. New York Department of Environmental Conservation Coastal Habitat Assessment.

Van Volkenburgh, Peter, 1985. Personal Communication. New York Department of Environmental Conservation Shellfish Division.